

Amendment to the Claims:

This listing will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claim 1. (currently amended) A film of a ~~multimodal~~ bimodal polyethylene produced by polymerization catalysed by a single site catalyst having more than one η^5 -cyclic ligand said ~~multimodal~~ bimodal polyethylene comprising

- ai) a lower molecular weight homopolymer of ethylene and
- bi) a higher molecular weight terpolymer of ~~ethylene and two comonomers selected from C₄ to C₁₂ alpha-olefins~~ ethylene, 1-butene and a C₆ to C₁₂ alpha-olefin,

or

- aii) a lower molecular weight polymer which is a binary copolymer of ethylene and a comonomer selected from C₄ to C₁₂ ~~alpha-olefin~~ alpha-olefins and
- bii) a higher molecular weight polymer which is either a binary copolymer of ethylene and 1-butene, if the lower molecular weight polymer of aii) is a binary copolymer of ethylene and a C₆ to C₁₂ alpha-olefin, or a terpolymer of ethylene, 1-butene and a comonomer selected from C₆ to C₁₂ alpha-olefin;

~~a C₄ to C₁₂ alpha-olefin comonomer different from the comonomer employed in aii)~~
~~or a terpolymer with two comonomers selected from C₄ to C₁₂ alpha-olefins;~~

or

~~_____ aiii) a lower molecular weight terpolymer of ethylene and two comonomers
selected from C₄ to C₁₂ alpha-olefins;~~

~~_____ biii) a higher molecular weight terpolymer of ethylene and two comonomers
selected from C₄ to C₁₂ alpha-olefins;~~

wherein all components are made by the same catalyst.

Claim 2. (previously presented) A film as claimed in claim 1 wherein said comonomers are selected from the group consisting of: but-1-ene, hex-1-ene, 4-methyl-pent-1-ene, hept-1-ene, oct-1-ene and dec-1-ene.

Claim 3. (original) A film as claimed in claim 2 wherein said comonomers are but-1-ene and hex-1-ene.

Claim 4. (currently amended) A film as claimed in claim 1 ~~wherein said polyethylene is a bimodal polyethylene~~ wherein the lower molecular weight component constitutes from 30 to 70% wt of the polyethylene.

Claim 5. (previously presented) A film as claimed in claim 1 wherein the comonomer content of said polyethylene is 0.1 to 10% mol.

Claim 6. (previously presented) A film as claimed in claim 1 wherein the density of said polyethylene is from 905 to 930 kg/m³.

Claim 7. (previously presented) A film as claimed in claim 1 wherein the weight average molecular weight of said polyethylene is 50000 to 250000 g/mol.

Claim 8. (previously presented) A film as claimed in claim 1 wherein the molecular weight distribution of said polyethylene is from 3 to 8.

Claim 9. (previously presented) A film as claimed in claim 1 wherein the MFR₂ of

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said polyethylene is 0.4 to 3 g/10 min.

Claim 10. (previously presented) A film as claimed in claim 1 wherein said polyethylene is blended with a further polymer.

Claim 11. (original) A film as claimed in claim 10 wherein said further polymer is a low density polyethylene (LDPE).

Claim 12. (previously presented) A film as claimed in claim 1 comprising a plurality of layers.

Claim 13. (previously presented) A film as claimed in claim 1 produced by extrusion using a blow up ratio of from 2:1 to 4:1.

Claims 14-22. (canceled)

Claim 23. (currently amended) A film as claimed in claim 1 wherein said bimodal polyethylene comprises

- aii) a lower molecular weight polymer which is a binary copolymer of ethylene and a ~~a~~-comonomer selected from C₄ to C₁₂ alpha-olefin and
- bii) a higher molecular weight polymer which is either a binary copolymer of ethylene and 1-butene, if the lower molecular weight polymer of aii) is a binary copolymer of ethylene and a C₆ to C₁₂ alpha-olefin, or a terpolymer of ethylene, 1-butene and a comonomer selected from C₆ to C₁₂ alpha-olefin.

Claim 24. (currently amended) A polyethylene composition for film production, said composition comprising a ~~multimodal~~ bimodal polyethylene produced by polymerization catalysed by a single site catalyst having more than one eta⁵-cyclic η⁵-cyclic ligand comprising

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- ai) a lower molecular weight homopolymer of ethylene and
- bi) a higher molecular weight terpolymer of ~~ethylene and two comonomers~~
~~selected from C₄ to C₁₂ alpha-olefins~~ ethylene, 1-butene and a C₆ to
C₁₂ alpha-olefin,

or

- a ii) a lower molecular weight polymer which is a binary copolymer of
ethylene and a comonomer selected from C₄ to C₁₂ ~~alpha-olefin~~ alpha-
olefins and
- b ii) a higher molecular weight polymer which is either a binary copolymer
of ethylene and 1-butene, if the lower molecular weight polymer of a ii)
is a binary copolymer of ethylene and a C₆ to C₁₂ alpha-olefin, or a
terpolymer of ethylene, 1-butene and a comonomer selected from C₆
to C₁₂ alpha-olefin; ~~a C₄ to C₁₂ alpha-olefin comonomer different from~~
~~the comonomer employed in a ii)~~ or a terpolymer and two comonomers
selected from ~~C₄ to C₁₂ alpha-olefins;~~

or

~~_____ a iii) a lower molecular weight terpolymer of~~

~~_____ ethylene and two comonomers selected from C₄~~

~~_____ to C₁₂ alpha-olefins;~~

~~_____ b iii) a higher molecular weight terpolymer of ethylene and two comonomers~~
~~selected from C₄ to C₁₂ alpha-olefins;~~

wherein all components are made by the same catalyst.

Claim 25. (previously presented) A composition as claimed in claim 24 wherein said

comonomers are selected from the group consisting of: but-1-ene, hex-1-ene, 4-methyl-pent-1-ene, hept-1-ene, oct-1-ene and dec-1-ene.

Claim 26. (previously presented) A composition as claimed in claim 25 comprising a blend of said polyethylene and a further polymer.

Claim 27. (previously presented) A compositions as claimed in claim 26 wherein said further polymer is a low density polyethylene (LDPE).

Claim 28. (currently amended) A product packaged within a heat-sealed film of a ~~multimodal~~ bimodal polyethylene produced by polymerization catalysed by a single site catalyst having more than one eta⁵-cyclic ligand comprising

- ai) a lower molecular weight homopolymer of ethylene and
- bi) a higher molecular weight terpolymer of ~~ethylene and two comonomers selected from C₄ to C₁₂ alpha-olefins, ethylene, 1-butene and a C₆ to C₁₂ alpha-olefin.~~

or

- a ii) a lower molecular weight polymer which is a binary copolymer of ethylene and a comonomer selected from C₄ to C₁₂ alpha-olefin and
- b ii) a higher molecular weight polymer which is either a binary copolymer of ethylene and 1-butene, if the lower molecular weight polymer of a ii) is a binary copolymer of ethylene and a C₆ to C₁₂ alpha-olefin, or a terpolymer of ethylene, 1-butene and a comonomer selected from C₆ to C₁₂ alpha-olefin;

~~and a C₄ to C₁₂ alpha-olefin comonomer different from the comonomer employed in a ii) or a terpolymer and two comonomers selected from C₄ to C₁₂ alpha-olefins;~~

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or

~~_____ aiii) a lower molecular weight terpolymer of ethylene and two comonomers
selected from C₄ to C₁₂ alpha-olefins;~~

~~_____ biii) a higher molecular weight terpolymer of ethylene with two comonomers
selected from C₄ to C₁₂ alpha-olefins;~~

wherein all components are made by the same catalyst.

Claim 29. (previously presented) A product as claimed in claim 28 wherein said comonomers are selected from the group consisting of: but-1-ene, hex-1-ene, 4-methyl-pent-1-ene, hept-1-ene, oct-1-ene and dec-1-ene.

Claim 30. (previously presented) A product as claimed in claim 28 being a packaged foodstuff or liquid.